

REGIONAL DIFFERENCE OF INDOOR ACTIVITY PATTERNS IN KOREA.

Kiyoung Lee, *Department of Environmental Health, Graduate School of Public Health, Seoul National University*

Wonho Yang, *Department of Occupational Health, Catholic University of Daegu*

Background and Aims: The information about time spent in microenvironments plays a critical role for personal exposure to environmental pollutants. While there are several large scale activity pattern studies in Western countries, comprehensive time activity pattern research for exposure assessment has not been readily available in Korea.

Methods: We analyzed residential indoor and transportation times of Korean population over 10 years old. The population based study collected time activity pattern of 31,634 Korean for two consecutive days. Impact of sociodemographic factors on time activity has been assessed using multiple linear regression models.

Results: The residential indoor times were 14.23 hours in weekday and 16.13 hours in weekend and shorter than those in Western countries. The transportation times were 1.75 hours in weekday and 1.68 hours in weekend. The residential indoor times were significantly longer in weekend than in weekday ($p < 0.000$). However, transportation distributions of weekday and weekend were similar. Korean population spent less time at home after the working hours. The time spent in residential indoor at 6 PM and 10 PM were about 37% and 75%, respectively. These residential indoor time were different from the results of about 67% (6 PM) and 90% (10 PM) in USA. The most significant factors on residential indoor time were employment status, age, monthly income and gender in weekday and employment status and gender in weekend. The factors on transportation were gender, employment status and monthly income in weekday and gender, employment status, age and marriage status in weekend.

Conclusions: Since there are substantial difference of Korean population activity pattern, this information can be critical for exposure assessment in Korea. Determinants of time activity pattern need to be taken into account in exposure assessment, epidemiological analyses, exposure simulations, as well as in the development of preventive strategies.